|        | Changed a file from non-ASCII to ASCII  Changed a file from non-ASCII to ASCII  |
|--------|---|
|        | Changed the margins in cases where the sequence text was "wrapped" down to the next line.   |
|        |   |
| -      | Edited a format error in the Current Application Data section, specifical TERED   |
| 1      | Edited the Current Application Data section with the actual current number. The number inputted by the applicant was  the prior application data; or other                                  |
| 1      | Added the mandatory heading and subheadings for "Current Application Data".   |
| E      | Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.   |
| (      | Changed the spelling of a mandatory field (the headings or subheadings), specifically:  |
| c      | Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:   |
| lı     | nserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:   |
| c      | Corrected subheading placement. All responses must be on the same line as each subheading. If the pplicant placed a response below the subheading, this was moved to its appropriate place. |
| ŀ      | nserted colons after headings/subheadings. Headings edited included:  |
| C      | Deleted extra, invalid, headings used by an applicant, specifically:  |
| -      | Deleted: non-ASCII "garbage" at the beginning end of files; secretary initials/filename at end of files page numbers throughout text; other invalid text, such as                           |
| ı      | Inserted mandatory headings, specifically:  |
| (      | Corrected an obvious error in the response, specifically:   |
| _<br>E | Edited identifiers where upper case is used but lower case is required, or vice versa.  |
| (      | Corrected an error in the Number of Sequences field, specifically:  |
| F      | A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.  |
|        | eleted <i>endIng</i> stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error<br>re to a PatentIn bug). Sequences corrected:                               |
| uu     | •   |

<sup>\*</sup>Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.



OIPE

RAW SEQUENCE LISTING DATE: 03/20/2002 PATENT APPLICATION: US/10/083,168 TIME: 12:32:39

Input Set : A:\pto\_ms.txt

```
3 <110> APPLICANT: Liaw, Chen W.
             Chalmers, Derek T.
      5
             Behan, Dominic P.
     6
             Maciejewski-Lenior, Dominique
     7
             Leonard, James N.
     8
             Ortuno, Daniel
     9
             Lin, I-Lin
    11 <120> TITLE OF INVENTION: Endogenous And Non-Endogenous, Constitutively Activated G
Protein-Coupled
    12
             Receptors
    14 <130> FILE REFERENCE: AREN-0320
C--> 16 <140> CURRENT APPLICATION NUMBER: US/10/083,168
C--> 16 <141> CURRENT FILING DATE: 2002-02-26
    16 <160> NUMBER OF SEQ ID NOS: 102
    18 <170> SOFTWARE: PatentIn version 3.1
     20 <210> SEQ ID NO: 1
     21 <211> LENGTH: 1062
     22 <212> TYPE: DNA
     23 <213> ORGANISM: Homo sapiens
     25 <400> SEQUENCE: 1
    26 atggaaacca acttctccat tcctctgaat gaaactgagg aggtgctccc tgagcctgct
                                                                               60
     28 ggccacaccg ttctgtggat cttctcattg ctagtccacg gagtcacctt tgtcttcggg
                                                                              120
                                                                              180
     30 gtcctgggca atgggcttgt gatctgggtg gctggattcc ggatgacacg cacagtcaac
     32 accatctgtt acctgaacct ggccctagct gacttctctt tcagtgccat cctaccattc
                                                                              240
     34 cgaatggtct cagtcgccat gagagaaaaa tggccttttg gctcattcct atgtaagtta
                                                                              360
    36 gttcatgtta tgatagacat caacctgttt gtcagtgtct acctgatcac catcattgct
     38 ctggaccgct gtatttgtgt cctgcatcca gcctgggccc agaaccatcg caccatgagt
                                                                              420
                                                                              480
     40 ctggccaaga gggtgatgac gggactctgg attttcacca tagtccttac cttaccaaat
                                                                              540
     42 ttcatcttct ggactacaat aagtactacg aatggggaca catactgtat tttcaacttt
                                                                              600
     44 qcattctqqq qtgacactgc tgtagagagg ttgaacgtgt tcattaccat ggccaaggtc
                                                                              660
     46 tttctgatcc tccacttcat tattggcttc agcgtgccta tgtccatcat cacagtctgc
     48 tatgggatca tegetgecaa aatteacaga aaceacatga ttaaateeag eegteeetta
                                                                              720
                                                                              780
     50 cgtgtcttcg ctgctgtggt ggcttctttc ttcatctgtt ggttccctta tgaactaatt
     52 ggcattctaa tggcagtctg gctcaaagag atgttgttaa atggcaaata caaaatcatt
                                                                              840
     54 cttgtcctga ttaacccaac aagctccttg gcctttttta acagctgcct caacccaatt
                                                                              900
                                                                              960
     56 ctctacgtct ttatgggtcg taacttccaa gaaagactga ttcgctcttt gcccactagt
     58 ttggagaggg ccctgactga ggtccctgac tcagcccaga ccagcaacac agacaccact
                                                                             1020
                                                                             1062
     60 tctgcttcac ctcctgagga gacggagtta caagcaatgt ga
     63 <210> SEQ ID NO: 2
     64 <211> LENGTH: 353
     65 <212> TYPE: PRT
     66 <213> ORGANISM: Homo sapiens
     68 <400> SEQUENCE: 2
     70 Met Glu Thr Asn Phe Ser Ile Pro Leu Asn Glu Thr Glu Glu Val Leu
```

Input Set : A:\pto\_ms.txt

|                                | =            |        |             | 10   |           |                | 1                | 15       |        |
|--------------------------------|--------------|--------|-------------|--|-----------|----------------|------------------|----------|--------|
| 71 1<br>74 Pro Glu Pro Ala (   | 5<br>3) 11-6 | mbr Va | al T.e.u    | Trn T                                      | le Phe    | e Ser          |                  |          | al     |
| 2.2                            | TA HIS       | TIII V | 25          | 115 1                                      |           |                | 30               |          |        |
| 75 20<br>78 His Gly Val Thr    | oho Wal      | Dhe G  | lv Val      | Leu G                                      | lv Ası    | n Gly          | Leu <sup>v</sup> | Val I    | le     |
|                                | Phe vai      | 4 (    | ry var      | дец с                                      | , 1, 110. | 45             |                  |          |        |
| 79 35<br>82 Trp Val Ala Gly    | Dl 3 mer     | Mo+ m1 | u<br>hr Ara | Thr V                                      | al Asi    |                | Ile              | Cys T    | yr     |
|                                | Pne Arg      | Met 1  | III AIG     | 1111                                       | 60        |                |                  | -        | -      |
| 83 50<br>86 Leu Asn Leu Ala    |              | 55     | ha Sar      | Dhe S                                      |           | a Ile          | Leu :            | Pro P    | he     |
|                                | Leu Ala      | ASP P  | He Ser      | 7110                                       | 75        |                |                  | 8        | 0      |
| 87 65                          | 70           | 16a+ 1 | ra Clu      |  |           | o Phe          | Glv              | Ser P    | he     |
| 90 Arg Met Val Ser             | val Ala      | Met A. | ig Giu      | 90   | LIP II    | 0 10           | 1                | 95       |        |
| 91                             | 85<br>       | 1701 M | o+ Tle      |  | rle As    | n Leu          | Phe              | Val S    | er     |
| 94 Leu Cys Lys Leu             | val His      | val M  | · 105       | HSP -                                      | LIC AD    |                | 110              |          |        |
| 95 100                         | _, _,        | T] - A | · 105       | ,<br>, , , , , , , , , , , , , , , , , , , | Ara Cv    | s Tle          |                  | Val I    | Leu    |
| 98 Val Tyr Leu Ile             | Thr lie      | IIe A  | та тег      | ASP A                                      | arg cy    | 125            | 0,10             |          |        |
| 99 115                         | - 2 - 22     |        | 20          | or Thr                                     | Mat S     |                | ı Ala            | Lvs      | Arq    |
| 102 His Pro Ala Trp            | Ala GI       | n Asn  | HIS AI      | .g 1111                                    | Met 3     | 40             |                  | _1 -     | 5      |
| 103 130                        | _            | 135    | nl - ml     | Tlo  |           |                | · Ten            | Pro      | Asn    |
| 103 130<br>106 Val Met Thr Gly | Leu Tr       | p IIe  | Pne Tr      | ir iie                                     | 155       | eu III         | . пси            |          | 160    |
| 107 145                        | 15           | 0      | a m1        | ml   |           | li z Ner       | n Thr            | ጥህዮ      |        |
| 107 145<br>110 Phe Ile Phe Trp | Thr Th       | r Ile  | ser T       | 170  | ASH G     | TA VO          | , 1111           | 175      | 010    |
| 111                            | 165          | _      | ~3 - 3      | 170  | 71- V     | al Gli         | ı Ara            | _        | Asn    |
| 111<br>114 Ile Phe Asn Phe     | Ala Ph       | e Trp  | GIY AS      | sp Thr                                     | Ala v     | ar Gr          | 190              | 1        |        |
| 115 180                        | 1            |        | T.5         | 35   |           |                | 100              | <i>'</i> |        |
| 118 Val Phe Ile Thr            | Met Al       | a Lys  | Val Pi      | ne Leu                                     | IIe I     | eu ni:<br>20!  | 5 F110           | 110      | 110    |
| 110 105                        |              |        | 200         |  |           | ∠∪.            | J                |          |        |
| 122 Gly Phe Ser Val            | . Pro Me     | et Ser | Ile I.      | Le Thr                                     | var       | .ys 1y.<br>220 | r Gry            | 110      | 110    |
| 123 210                        |              | 215    |             | 1-   |           |                | ~ A~c            | , Dro    | T.e.II |
| 126 Ala Ala Lys Ile            | His A        | g Asn  | His M       | et lle                                     | тàs       | ser se         | I WIG            | , 110    | 240    |
| 107 20E                        | 2.5          | 30     |             |  | 233       |                |                  |          | 210    |
| 130 Arg Val Phe Ala            | a Ala Va     | al Val | Ala S       | er Pne                                     | nne .     | rie cy         | 2 11             | 255      | 110    |
| 131                            | 245          |        |             | 250  |           | COU TAY        | e G11            |          |        |
| 131<br>134 Tyr Glu Leu Ile     |              | Le Leu | Met A       | ıa vaı                                     | TIP       | ьец пу         | 270              | 1100     |        |
| 135 260                        | )            |        |             | 65   | T         | rlo Na         |                  |          | Ser    |
| 138 Leu Asn Gly Lys            | s Tyr L      | ys Ile | ITE P       | eu vai                                     | . Leu .   | 28             | E                | J 1111   | 001    |
| 139 275                        |              |        | 280         |  | D         |                |                  | r Val    | Phe    |
| 142 Ser Leu Ala Ph             | e Phe A      | sn Ser | Cys L       | eu Asi                                     | PIO.      | 300            | u iy.            | ı var    | 20     |
| 143 290                        |              | 295    |             | . ~1 -                                     |           |                | u Dr             | o Thr    | Ser    |
| 146 Met Gly Arg As             | n Phe G      | ln Glu | Arg L       | eu 116                                     | Arg       | ser ne         | u FI             | 0 1111   | 320    |
| 147 305                        | 3            | 10     |             |  | 315       | 712 Cl         | n Th             | r Ser    |        |
| 14/ 305<br>150 Leu Glu Arg Al  | a Leu T      | hr Glu | Val P       | ro Asp                                     | ser.      | Ala Gi         | .11 111          | 335      | , ASII |
| 4 F 4                          | マクム          |        |             | 330  | ,         |                |                  |          |        |
| 151<br>154 Thr Asp Thr Th      | r Ser A      | la Ser | Pro F       | ro GI                                      | ı GIU     | Thr Gi         | .u ве<br>35      | u GII    | LAIG   |
| 155 34                         | 0            |        | 3           | 45   |           |                | 3,3              | J        |        |
| 158 Met                        |              |        |             |  |           |                |                  |          |        |
| 162 <210> SEQ ID N             | 0: 3         |        |             |  |           |                |                  |          |        |
| 163 <211> LENGTH:              |              |        |             |  |           |                |                  |          |        |
| 164 <212> TYPE: DN             | A            |        |             |  | -         |                |                  |          |        |
| 165 <213> ORGANISM             | : Homo       | sapien | s           |  |           |                |                  |          |        |
| 167 <400> SEQUENCE             | : 3          |        |             |  |           |                |                  |          |        |

Input Set : A:\pto\_ms.txt

| 160 | 2+444 | ~~~          | ~ i ~           | tast    | + = 00 | = ta   | aada                  | ctat  | aaa        | ttca                       | αca        | at.t.t     | caat   | σa c     | agca       | gccag  | 60   |  |
|-----|-------|--------------|-----------------|---------|--------|--------|-----------------------|-------|------------|----------------------------|------------|------------|--|----------|------------|--------|------|--|
| 170 | argge | aya          | 90 a<br>+a =    | adda    | ttcc   | יל מכי | aatt                  | cade  | เลลต       | atct                       | ttc        | taca       | ctac   | at q     | tacc       | taata  | 120  |  |
| 170 | gayyo | 190a<br>++~+ | stct ataatctaat |         |        |        | ggggaactct ctggtgctgg |       |            |                            |            |            | tgccctgcat gtacctggtg<br>tcatatccat cttctaccat |          |            |        |      |  |
| 174 | 224+1 | tace         | as a            | ceta    | acaa   | ra to  | tatt                  | ccta  | gtgaacctac |                            |            | ccct       | aact   | ga c     | ctqq       | tqttt  | 240  |  |
| 176 | atata | rasa         | ya y<br>+c +    | acco    | ++~+   | a aa   | ccta                  | taca  | aac        | greatceatg                 |            |            | ccctggctga cctggtgttt aatgggtgtt tggccaggtc    |          |            |        |      |  |
| 170 | 2+4+  | rass         | 22 0            | ccta    | ctaa   | a ca   | teta                  | cact  | att        | attaacttct                 |            |            | atco   | at q     | ctca       | tcctc  | 360  |  |
| 100 | acyc  | ycaa<br>~aa+ | aa y            | + < + < | ccyy   | g cu   | test                  | tata  | ata        | gtggttaagg                 |            |            | caad   | ac c     | taca       | accag  | 420  |  |
| 100 | acces | geat         | a a             | . cg cg | gacc   | a aa   | mass                  | aata  | 900        | accagcttgc                 |            |            | ctaa   | art. a   | atat       | ccctq  | 480  |  |
| 104 | caay  | ttaa         | 9a 9            | gacy    | acci   | + +=   | teta                  | taac  | act        | atct                       | tta        | atct       | cgac   | aa d     | ct.ca      | tatgt  | 540  |  |
| 104 | ergg  | 2002         | + ~ ~           | gece    | raaa   | + ++   | CCEC                  | tata  | att        | ctta                       | cca        | ccca       | gato   | ac a     | ctaa       | ggttc  | 600  |  |
| 100 | ggill | acca<br>Laga | Ly a            | agt o   | ycaa   | + ~=   | ++ ~+                 | ctac  | , tat      | tcad                       | tca        | taat       | caaa   | ac a     | ctac       | ttcat  | 660  |  |
| 100 |       | Lgee         | ac t            | .gc.c   | 2200   | it ya  | at c                  | teta  | 220        | atca                       | tct        | tact       | aata   | at o     | racta      | tgttc  | 720  |  |
| 190 | gerge | yayy<br>     |                 | .ccay   | aayc   | - ca   | gact                  | anta  |            | ++ <=                      | tcc        | acad       |  | ca c     | taaa       | raatac | 780  |  |
| 192 | ctgc  | Lgac         | cc a            | igaty   |        | . L Ca | acci                  | caty  | aay        | aagttcatcc                 |            |            | cato   | iac s    | tacc       | taaaa  | 840  |  |
| 194 | tatg  | ccat         | ga c            | cago    |        | a cu   | acac                  | catt  | aty        | atggtgacag                 |            |            | tera   | aa o     | raact      | tctaa  | 900  |  |
| 196 | gcct  | gcct         | ta a            | CCCT    | gtgc   | CL CL  | algo                  |       | . 910      | tcagcctga a<br>accttgggg 1 |            |            | .ccga  | ca s     | taac       | aatct  | 960  |  |
| 198 | aaac  | ttgt         | .ga a           | ıggac   | attg   | g tt   | geet                  | ccci  | . Lac      |                            | 999        | + 444      | acac   | .ca c    | 1200       | tatta  | 1020 |  |
|     |       |              |                 | ittco   | aaga   | ic tt  | tttc                  | etged | : LCC      | Caca                       | aly        | Lyya       | ggcc   | acc      | ayco       | tgttc  | 1029 |  |
|     | cagt  |              | _               |         |        |        |                       |       |            |                            |            |            |  |          |            |        | 1025 |  |
|     | <210  |              |                 |         |        |        |                       |       |            |                            |            |            |  |          |            |        |      |  |
|     | <211  |              |                 |         | 2      |        |                       |       |            |                            |            |            |  |          |            |        |      |  |
|     | <212  |              |                 |         |        |        |                       |       |            |                            |            |            |  |          |            |        |      |  |
|     | <213  |              |                 |         |        | sar    | oiens                 | 5     |            |                            |            |            |  |          |            |        |      |  |
| 210 | <400  | > SE         | QUEN            | ICE:    | 4      |        | •                     |       | _          | _                          | <b>~</b> 3 | <b>5</b> 1 | 0  | G        | Dha        | N a n  |      |  |
|     | Met   | Ala          | Glu             | His     | Asp    | Tyr    | His                   | Glu   | Asp        |                            | GLY        | Pne        | ser  | ser      |            | ASII   |      |  |
| 213 | 1     |              |                 |         | 5      | _      |                       |       |            | 10                         | _          | -1         | D1   | · .      | 15         | 37- 1  |      |  |
|     | Asp   | Ser          | Ser             |         | Glu    | Glu    | His                   | Gln   |            | Phe                        | Leu        | GIn        | Pne  | ser      | ьys        | vai    |      |  |
| 217 |       |              |                 | 20      |        |        |                       |       | 25         |                            |            | _          |  | 30       | **- 1      | G1     |      |  |
| 220 | Phe   | Leu          | Pro             | Cys     | Met    | Tyr    | Leu                   |       | Val        | Phe                        | vaı        | Cys        |  | Leu      | val        | GIA    |      |  |
| 221 |       |              | 35              |         |        |        |                       | 40    |            | _,                         |            |            | 45   | T        | <b>a</b> 1 | Com    |      |  |
|     | Asn   |              | Leu             | Val     | Leu    | Val    |                       | Ser   | He         | Phe                        | Tyr        |            | гÃг  | Leu      | GIN        | Ser    |      |  |
| 225 |       | 50           |                 |         |        |        | 55_                   |       | _          | _                          | _          | 60         |  | <b>-</b> | **- 7      | Dh -   |      |  |
|     | Leu   | Thr          | Asp             | Val     | Phe    |        | Val                   | Asn   | Leu        | Pro                        |            | Ala        | Asp  | ьeu      | vai        | Pne    |      |  |
| 229 | 65    |              |                 |         |        | 70     |                       | _     |            | _                          | 75         |            | 1  |          | _          | 80     |      |  |
| 232 | Val   | Cys          | Thr             | Leu     | Pro    | Phe    | $\mathtt{Trp}$        | Ala   | Tyr        |                            | Gly        | Ile        | His  | Glu      | Trp        | vai    |      |  |
| 233 |       |              |                 |         | 85     |        |                       |       |            | 90                         | _          |            | _  |          | 95         | _      |      |  |
| 236 | Phe   | Gly          | Gln             | Val     | Met    | Cys    | Lys                   | Ser   |            | Leu                        | Gly        | Ile        | Tyr  | Thr      | He         | Asn    |      |  |
| 237 |       |              |                 | 100     |        |        |                       |       | 105        |                            |            | _          |  | 110      | _          |        |      |  |
| 240 | Phe   | Tyr          | Thr             | Ser     | Met    | Leu    | Ile                   |       | Thr        | Cys                        | Ile        | Thr        |  | Asp      | Arg        | Phe    |      |  |
| 241 |       |              | 115             |         |        |        |                       | 120   |            |                            |            |            | 125  | _        |            | _      |      |  |
| 244 | Ile   | Val          | Val             | Val     | Lys    | Ala    | Thr                   | Lys   | Ala        | $\mathtt{Tyr}$             | Asn        | Gln        | Gln  | Ala      | Lys        | Arg    |      |  |
| 245 |       | 130          |                 |         |        |        | 135                   |       |            |                            |            | 140        |  |          |            |        |      |  |
| 248 | Met   | Thr          | Trp             | Gly     | Lys    | Val    | Thr                   | Ser   | Leu        | Leu                        | Ile        | Trp        | Val  | Ile      | Ser        | Leu    |      |  |
| 249 | 145   |              |                 |         |        | 150    |                       |       |            |                            | 155        |            |  |          |            | 160    |      |  |
| 252 | Leu   | Val          | Ser             | Leu     | Pro    | Gln    | Ile                   | Ile   | Tyr        | Gly                        | Asn        | Val        | Phe  | Asn      | Leu        | Asp    |      |  |
| 253 | ı     |              |                 |         | 165    |        |                       |       |            | 170                        |            |            |  |          | 175        |        |      |  |
| 256 | Lys   | Leu          | Ile             | Cys     | Gly    | Tyr    | His                   | Asp   | Glu        | Ala                        | Ile        | Ser        | Thr  | Val      | Val        | Leu    |      |  |
| 257 |       |              |                 | 180     |        |        |                       |       | 185        |                            |            |            |  | 190      |            |        |      |  |
| 260 | Ala   | Thr          | Gln             | Met     | Thr    | Leu    | Gly                   | Phe   | Phe        | Leu                        | Pro        | Leu        | Leu  | Thr      | Met        | Ile    |      |  |
| 261 |       |              | 195             |         |        |        |                       | 200   |            | •                          |            |            | 205  |          |            |        |      |  |
|     |       |              |                 |         |        |        |                       |       |            |                            |            |            |  |          |            |        |      |  |

Input Set : A:\pto\_ms.txt

```
264 Val Cys Tyr Ser Val Ile Ile Lys Thr Leu Leu His Ala Gly Gly Phe
                            215
268 Gln Lys His Arg Ser Leu Lys Ile Ile Phe Leu Val Met Ala Val Phe
                        230
                                             235
272 Leu Leu Thr Gln Met Pro Phe Asn Leu Met Lys Phe Ile Arg Ser Thr
                    245
                                         250
273
276 His Trp Glu Tyr Tyr Ala Met Thr Ser Phe His Tyr Thr Ile Met Val
                260
                                    265
277
280 Thr Glu Ala Ile Ala Tyr Leu Arg Ala Cys Leu Asn Pro Val Leu Tyr
                                                     285
281
            275
                                280
284 Ala Phe Val Ser Leu Lys Phe Arg Lys Asn Phe Trp Lys Leu Val Lys
                            295
285
288 Asp Ile Gly Cys Leu Pro Tyr Leu Gly Val Ser His Gln Trp Lys Ser
                        310
                                             315
292 Ser Glu Asp Asn Ser Lys Thr Phe Ser Ala Ser His Asn Val Glu Ala
                                         330
                    325
293
296 Thr Ser Met Phe Gln Leu
297
                340
300 <210> SEQ ID NO: 5
301 <211> LENGTH: 1119
302 <212> TYPE: DNA
303 <213> ORGANISM: Homo sapiens
305 <400> SEQUENCE: 5
                                                                            60
306 atggcctgca acagcacgtc cettgagget tacacatace tgctgctgaa caccagcaac
308 gcctcagact cggggtccac ccagttgccc gcacccctca ggatctcctt ggccatagtg
                                                                           120
310 atgctgctga tgaccgtggt ggggttcctg ggcaacactg tggtctgcat catcgtgtac
                                                                           180
                                                                           240
312 cagaggeegg ctatgegete ggeeateaac etgetgetgg ceaccetgge etteteegae
                                                                           300
314 atcatgctgt ccctctgctg catgcccttc accgccgtca ccctcatcac cgtgcgctgg
316 cactttgggg accacttctg ccgcctctca gccacgctct actggttttt tgtcctggag
                                                                           360
318 ggcgtggcca tcctgctcat catcagcgtg gaccgcttcc tcatcatcgt ccagcgccag
                                                                           420
                                                                           480
320 gacaagetga accegegeag ggecaaggtg ateategegg teteetgggt getgteette
                                                                           540
322 tgcatcgcgg ggccctcgct cacgggctgg acgctggtgg aggtgccgggc gcgggcccca
324 cagtgcgtgc tgggctacac ggagctcccc gctgaccgcg catacgtggt caccttggtg
                                                                           600
                                                                           660
326 gtggccgtgt tcttcgcgcc ctttggcgtc atgctgtgcg cctacatgtg catcctcaac
328 acggtccgca agaacgccgt gcgcgtgcac aaccagtcgg acagcctgga cctgcggcag
                                                                           720
330 ctcaccaggg cgggcctgcg gcgcctgcag cggcagcaac aggtcagcgt ggacttgagc
332 ttcaagacca aggccttcac caccatectg atectetteg tgggettete cetetgetgg
                                                                           840
334 ctgccccact ccgtctacag cctcctgtct gtgtttagcc agcgctttta ctgcggttcc
                                                                           900
336 teettetaeg ceaecageae etgegteetg tggtteagtt accteaagte egtetteaae
                                                                           960
338 cccatcgtct actgctggag aatcaaaaaa ttccgcgagg cctgcataga gttgctgccc
                                                                          1020
340 cagacettee aaateeteee caaagtgeet gageggatee gaaggagaat eeageeaage
                                                                          1080
342 acagtatacg tgtgcaatga aaaccagtct gcggtttag
                                                                          1119
345 <210> SEQ ID NO: 6
346 <211> LENGTH: 372
347 <212> TYPE: PRT
348 <213> ORGANISM: Homo sapiens
350 <400> SEQUENCE: 6
352 Met Ala Cys Asn Ser Thr Ser Leu Glu Ala Tyr Thr Tyr Leu Leu Leu
353 1
                    5
                                         10
```

Input Set : A:\pto\_ms.txt

| 356<br>357 | Asn      | Thr       | Ser       | Asn<br>20  | Ala      | Ser      | Asp            | Ser  | Gly<br>25  | Ser       | Thr              | Gln       | Leu        | Pro<br>30  | Ala      | Pro      |
|------------|----------|-----------|-----------|------------|----------|----------|----------------|------|------------|-----------|------------------|-----------|------------|------------|----------|----------|
| 360<br>361 | Leu      | Arg       | Ile<br>35 |            | Leu      | Ala      | Ile            | Val  |            | Leu       | Leu              | Met       | Thr        | Val        | Val      | Gly      |
|            | Phe      | Leu<br>50 |           | Asn        | Thr      | Val      | Val<br>55      |      | Ile        | Ile       | Val              | Tyr<br>60 |            | Arg        | Pro      | Ala      |
| 368        |          |           | Ser       | Ala        | Ile      |          |                | Leu  | Leu        | Ala       |                  |           | Ala        | Phe        | Ser      |          |
| 369        |          | \r        | <b>-</b>  | <b>a</b>   | <b>-</b> | 70       |                |      | <b>D</b>   | D1        | 75<br>The second |           | **- 7      | m1         | <b>.</b> | 80       |
| 373        |          |           |           |            | 85       | _        | _              |      |            | 90        |                  |           |            | Thr        | 95       |          |
| 376<br>377 | Thr      | Val       | Arg       | Trp<br>100 | His      | Phe      | Gly            | Asp  | His<br>105 | Phe       | Cys              | Arg       | Leu        | Ser<br>110 | Ala      | Thr      |
|            | Leu      | Tyr       | _         | Phe        | Phe      | Val      | Leu            |      | Gly        | Val       | Ala              | Ile       |            | Leu        | Ile      | Ile      |
| 381        | <b>G</b> | 77- 3     | 115       | 3          | Db -     | <b>T</b> | <b>-1</b> -    | 120  | 77- T      | <b>61</b> | <b>3</b>         | a1        | 125        | T          | <b>T</b> | <b>3</b> |
| 385        | ser      | 130       | Asp       | Arg        | Pne      | ьeu      | 11e            | iie  | vaı        | GIN       | Arg              | 140       | Asp        | Lys        | Leu      | ASN      |
| 388        | Pro      | Arg       | Arg       | Ala        | Lys      | Val      | Ile            | Ile  | Ala        | Val       | Ser              | Trp       | Val        | Leu        | Ser      | Phe      |
| 389        | 145      |           |           |            |          | 150      |                |      |            |           | 155              |           |            |            |          | 160      |
| 392        | Cys      | Ile       | Ala       | Gly        | Pro      | Ser      | Leu            | Thr  | Gly        | Trp       | Thr              | Leu       | Val        | Glu        | Val      | Pro      |
| 393        |          |           |           |            | 165      |          |                |      |            | 170       |                  |           |            |            | 175      |          |
| 396        | Ala      | Arg       | Ala       | Pro        | Gln      | Cys      | Val            | Leu  | Gly        | Tyr       | Thr              | Glu       | Leu        | Pro        | Ala      | Asp      |
| 397        |          |           |           | 180        |          |          |                |      | 185        |           |                  |           |            | 190        |          |          |
| 400        | Arg      | Ala       | Tyr       | Val        | Val      | Thr      | Leu            | Val  | Val        | Ala       | Val              | Phe       | Phe        | Ala        | Pro      | Phe      |
| 401        |          |           | 195       |            |          |          |                | 200  |            |           |                  |           | 205        |            |          |          |
| 404        | Gly      | Val       | Met       | Leu        | Cys      | Ala      | $\mathtt{Tyr}$ | Met  | Cys        | Ile       | Leu              | Asn       | ${	t Thr}$ | Val        | Arg      | Lys      |
| 405        |          | 210       |           |            |          |          | 215            |      |            |           |                  | 220       |            |            |          |          |
| 408        | Asn      | Ala       | Val       | Arg        | Val      |          | Asn            | Gln  | Ser        | Asp       | Ser              | Leu       | Asp        | Leu        | Arg      | Gln      |
|            | 225      |           |           |            |          | 230      |                |      |            |           | 235              |           |            |            |          | 240      |
| 412        | Leu      | Thr       | Arg       | Ala        | _        | Leu      | Arg            | Arg  | Leu        | Gln       | Arg              | Gln       | Gln        | Gln        | Val      | Ser      |
| 413        |          |           |           |            | 245      |          |                |      |            | 250       |                  |           |            |            | 255      |          |
|            | Val      | Asp       | Leu       |            | Phe      | Lys      | Thr            | Lys  |            | Phe       | Thr              | Thr       | Ile        | Leu        | Ile      | Leu      |
| 417        |          |           |           | 260        |          |          |                |      | 265        |           |                  |           |            | 270        |          |          |
|            | Phe      | Val       |           | Phe        | Ser      | Leu      | Cys            |      | Leu        | Pro       | His              | Ser       |            | Tyr        | Ser      | Leu      |
| 421        | _        | _         | 275       |            | _        |          | _              | 280  | _          | _         |                  | _         | 285        |            | _        |          |
|            | Leu      |           | Val       | Phe        | Ser      | GIn      | _              | Phe  | Tyr        | Cys       | GLY              |           | Ser        | Phe        | Tyr      | Ala      |
| 425        | m1       | 290       | m1        | G          | 77- 7    | <b>T</b> | 295            | D1   | <b>.</b>   |           | <b>T</b>         | 300       | Q          | TT- 7      | D1       | 3        |
|            |          | ser       | THE       | Cys        | val      |          | Trp            | Рле  | ser        | туг       |                  | ьys       | Ser        | Val        | Pne      |          |
| 429        |          | т1.       | 17a 1     | Шттт       | C        | 310      | 7 22           | т1.  | T          | T         | 315              | 7 mar     | Clu        | 71-        | Crra     | 320      |
| 432        |          | iie       |           |            | 325      |          |                |      | ьуѕ        |           |                  |           | GIU        | Ala        | 335      |          |
|            |          | Tou       |           |            |          |          |                |      |            |           |                  |           | 17-1       |            |          |          |
| 436        | GIU      | ьeu       | Leu       | 340        | GIII     | THI      | Pne            | GIII | 345        | ьeu       | PIO              | гу        | val        | 350        | GIU      | Arg      |
|            | TIO      | 7 ~~      | 7 20      |            | T10      | Cln      | Dro            | Cor  |            | 17 n 1    | Пттъ             | 1/a 1     | Cva        | Asn        | Clu      | Acn      |
| 441        | 116      | ALG       | 355       | Arg        | 116      | GIII     | FIO            | 360  | T 11T      | Val       | TYT              | Val       | 365        | Abii       | GIU      | ASII     |
|            | Gln      | Ser       |           | Val        |          |          |                | 300  |            |           |                  |           | 303        |            |          |          |
| 445        | GIII     | 370       | AIG       | Val        |          |          |                |      |            |           |                  |           |            |            |          |          |
|            | <210     | )> SE     | TO TE     | ONO.       | . 7      |          |                |      |            |           |                  |           |            |            |          |          |
|            |          | l> LE     |           |            |          |          |                |      |            |           |                  |           |            |            |          |          |
|            |          | 2> TY     |           |            |          |          | •              |      |            |           |                  |           |            |            |          |          |
|            |          |           |           |            |          |          |                |      |            |           |                  |           |            |            |          |          |

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/083,168

DATE: 03/20/2002

TIME: 12:32:40

Input Set : A:\pto\_ms.txt

Output Set: N:\CRF3\03202002\J083168.raw

L:16 M:270 C: Current Application Number differs, Replaced Current Application No

L:16 M:271 C: Current Filing Date differs, Replaced Current Filing Date